

REMARKS

Claims 20-25, 28-32, 35-38 and 41-46 are now pending in this application. Applicants have amended the claims to overcome the Examiner's objections and rejections as described in more detail below. The request for cancellation of claims herein is made without prejudice and applicants preserve their right to obtain claims to the canceled subject matter in divisional or continuing applications claiming priority from this application.

RESPONSE TO EXAMINER'S OBJECTIONS

Claim 49 stands objected to because in line 2 "CF₂F" should read "CH₂F". Applicants have canceled claim 49 herein, thereby obviating this rejection.

RESPONSE TO EXAMINER'S REJECTIONS

35 U.S.C. § 112, first paragraph

Claims 43-48 stand rejected under 35 U.S.C. § 112, first paragraph because the Examiner contends they contain subject matter which was not described in the specification in such a way as to enable one of skill in the art to use the invention. Specifically, the Examiner contends that the specification, while enabling the treatment of autoimmune disease, does not provide enablement for the prevention of autoimmune disease. In order to expedite allowance of the

pending claims, applicants have amended claim 43 (and therefore claims 44-46 which depend therefrom) to delete reference to the prevention of autoimmune disease. Claims 47 and 48 have been canceled. Applicants, therefore, respectfully request that the Examiner reconsider and withdraw the rejection under 35 U.S.C. § 112, first paragraph.

35 U.S.C. § 112, second paragraph

Claims 28 and 43 stand rejected under 35 U.S.C. § 112, second paragraph as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicants regard as the invention.

Specifically, the Examiner contends that in claim 28 the substituent "Z" is defined but there is no "Z" in the claimed formula. Applicants have amended the formula in claim 28 to delete the substituent "A" and substitute therefor the substituent "Z" thus obviating the rejection. Support for this amendment can be found throughout the specification as originally filed, particularly at page 9, lines 20-28.

The Examiner also contends that the phrase "autoimmune disease" in claim 43 is vague and one of ordinary skill in the art would not be able to ascertain its metes and bounds. Applicants traverse.

One of ordinary skill in the art understands the meaning of "autoimmune disease." Autoimmune disease is defined in the art as a disease "caused by antibodies produced against substances naturally present in the body." (The Oxford Dictionary and Thesaurus American Edition (1996)).* As such, it is well within the skill of the art to ascertain the metes and bounds of claim 43.

Applicants request that the Examiner reconsider and withdraw the 35 U.S.C. § 112, second paragraph rejections.

Double Patenting

i. Statutory Type Double Patenting

Claims 20-25 and 28-32 stand rejected under 35 U.S.C. § 101 because the Examiner contends they claim the same invention as claims 1-11 of United States Patent No. 5,756,465.

Claims 1-11 of United States Patent No. 5,756,465 recite compounds and pharmaceutical compositions "comprising an amino acid sequence having an N-terminal blocking group and a C-terminal Asp residue connected to an electronegative leaving group, wherein said amino acid sequence corresponds

* For the convenience of the Examiner, applicants have attached a copy of the relevant page from this reference at tab B.

to the sequence Ala-Tyr-Val-His-Asp, residues 112 to 116 of Seq. I.D. No. 3."

However, claims 20-25 and 28-32 of the instant application recite compounds and pharmaceutical compositions "comprising an amino acid sequence having an N-terminal blocking group and a C-terminal Asp residue connected to an electronegative leaving group, wherein said amino acid sequence substantially corresponds to at least a portion of the sequence Ala-Tyr-Val-His-Asp, residues 112 to 116 of Seq. I.D. No. 3." (Claim 20 is used as an example; emphasis is added.)

The claims of the instant invention are thus not coextensive with the claims of United States Patent No. 5,756,465. Applicants therefore respectfully request that the Examiner reconsider and withdraw the double patenting rejections under 35 U.S.C. § 101.

ii. Non-Statutory Double Patenting

Claims 20-27, 28-34 and 49 stand rejected under the judicially created doctrine of double patenting in view of claims 1-11 of United States Patent No. 5,756,465. In order to overcome this rejection, applicants will file a Terminal Disclaimer in compliance with 37 C.F.R. 1.321 upon notice that the claims are otherwise in condition for Allowance.

35 U.S.C. § 102(b)

Claims 20-49 stand rejected under 35 U.S.C. 102(b) as being anticipated by various references. Specifically, the Examiner contends that WO 9305071 ('071, published March 18, 1993), WO 9115577 ('577, published October 17, 1991), Thornberry et al. ("Thornberry", published April 30, 1992) and Rosenthal et al. ("Rosenthal", published November, 1991) were "patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States." Applicants traverse.

These documents were not published before applicants' earliest priority date. The instant application is a continuation of, and claims priority to, United States Application No. 09/039,657 (now issued United States Patent No. 6,136,787) which is a divisional application of United States Application No. 440,179 (now issued United States Patent No. 5,756,465). As such, the instant application is entitled to claim priority from United States Application No. 203,176 (filed February 28, 1994 and now issued United States Patent No. 5,416,013), and United States Application No. 750,644 (filed August 30, 1991).

It is clear that the priority date for the instant application of August 30, 1991 is prior to the publication dates of '071, '577, Thornberry and Rosenthal. These documents are, therefore, not prior art to this application.

Applicants therefore request that the Examiner reconsider and withdraw the 35 U.S.C. 102(b) rejections based on these references.

CONCLUSION

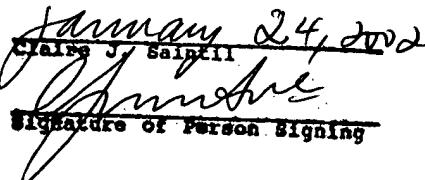
In view of the foregoing remarks and amendments, applicants request that the Examiner favorably reconsider this application and allow the amended claims now pending in it.

Respectfully submitted,



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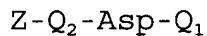


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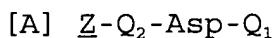
Appendix A

21. (Amended) The compound according to claim 20 having the formula:



where Z is an N-terminal protecting group;
Q₂ is 0 to 4 amino acids such that the sequence Q₂-Asp substantially corresponds to at least a portion of the sequence Ala-Tyr-Val-His-Asp, residues 112 to 116 of Seq. I.D. No. 3;
and Q₁ is an electronegative leaving group. [:]

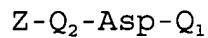
28. (Amended) A pharmaceutical composition comprising a physiologically acceptable carrier and a compound of the formula:



where Z is an N-terminal protecting group;
Q₂ is 0 to 4 amino acids such that Q₂-Asp substantially corresponds to at least a portion of the sequence Ala-Tyr-Val-His-Asp, residues 112 to 116 of Seq. I.D. No. 3;
and
Q₁ is an electronegative leaving group. [:]

43. (Amended) A method of treating inflammation or [preventing and] treating an autoimmune disease in a

mammal in need of such treatment comprising administering to said mammal an effective amount of a compound of the formula:



where Z is an N-terminal protecting group;

Q_2 is 0 to 4 amino acids such that the sequence $Q_2\text{-Asp}$ substantially corresponds to at least a portion of the sequence Ala-Tyr-Val-His-Asp, residues 112 to 116 of Seq.

I.D. No. 3; and

Q_1 is an electronegative leaving group. [:]

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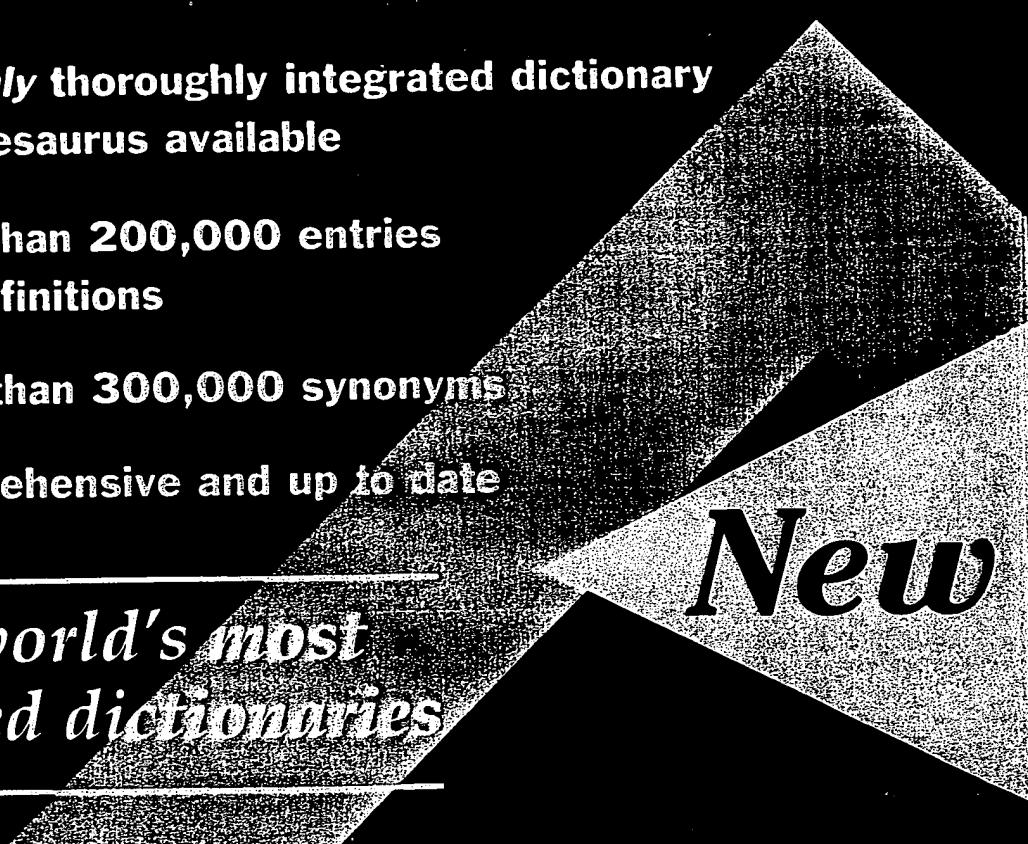
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autodidact | aut xidation

execution of such a sentence, esp. the burning of a heretic.
[Port., = act of the faith]

autodidact /awtōdīdakt/ *n.* a self-taught person.
☞ **autodidactic** /-dāktik/ *adj.* [AUTO- + *didact* as *DIDACTIC*]

autoerotism /awtō-ērātizm/ *n.* (also *autoeroticism* /-irōtizm/) *Psychol.* sexual excitement generated by stimulating one's own body; masturbation. ☞ **autoerotic** /-irōtik/ *adj.*

autofocus /awtōfōkəs/ *n.* a device for focusing a camera, etc., automatically.

autogamy /awtōgāmē/ *n. Bot.* self-fertilization in plants.

☞ **autogamous** *adj.* [AUTO- + Gk. *gamia* f. *gamos*: marriage]

autogenous /awtōjōnəs/ *adj.* self-produced. ☞ **autogenous welding** a process of joining metal by melting the edges together without adding material.

autogiro /awtōjīrō/ *n.* (also *autogyro*) (*pl.* -os) an early form of helicopter with freely rotating horizontal vanes and a propeller. [Sp. (as AUTO-, *giro* gyration)]

autograft /awtōgraft/ *n.* *Surgery.* a graft of tissue from one point to another of the same person's body.

autograph /awtōgraf/ *n. & v.* ☞ *n.* 1 a signature, esp. that of a celebrity. b handwriting. 2 a manuscript in an author's own handwriting. 3 a document signed by its author. ☞ *v.t.*

1 sign (a photograph, autograph album, etc.). 2 write (a letter, etc.) by hand. [F *autographe* or L-L *autographum* f. Gk *autographon* neut. of *autographos* (as AUTO-, -GRAPH)]

☞ 2 holograph. ☞ 1 see SIGN v. 1.

autography /awtōgrāfē/ *n.* 1 writing done with one's own hand. 2 the facsimile reproduction of writing or illustration.

☞ **autographic** /-grāfik/ *adj.*

autogyro var. of **AUTOIRO**.

Autoharp /awtōhārp/ *n. prop.* a kind of zither with a mechanical device to allow the playing of chords.

autoimmune /awtōimyūn/ *adj. Med.* (of a disease) caused by antibodies produced against substances naturally present in the body. ☞ **autoimmunity** *n.*

autointoxication /awtōntōksikāshn/ *n. Med.* poisoning by a toxin formed within the body itself.

autolysis /awtōlīzis/ *n.* the destruction of cells by their own enzymes. ☞ **autolytic** /awtōlītik/ *adj.* [G *Autolyse* (as AUTO-; -LYSIS)]

Automat /awtōmat/ *n. prop.* a cafeteria containing coin-operated machines dispensing food and drink. [G f. F *automate*, formed as AUTOMATION]

automate /awtōmāt/ *v.t.* convert to or operate by automation (the ticket office has been automated). ☞ **automated teller machine** electronic machine that allows customers to insert a card, punch in an identification number, and then perform banking transactions such as depositing or withdrawing funds, etc. [Abbr.: ATM. [back-form, f. AUTOMATION]]

☞ **automatize**. ☞ **automated teller machine** *colloq.* cash machine, automatic teller machine.

automatic /awtōmātik/ *adj. & n. & adj.* 1 (of a machine, device, etc., or its function) working by itself, without direct human intervention. 2 a done spontaneously; without conscious thought or intention (an automatic reaction). b necessary and inevitable (an automatic penalty). 3 *Psychol.* performed unconsciously or subconsciously. 4 (of a firearm) that continues firing until the ammunition is exhausted or the pressure on the trigger is released. 5 (of a motor vehicle or its transmission) using gears that change automatically according to speed and acceleration. ☞ *n.* 1 an automatic device, esp. a gun or transmission. 2 *colloq.* a vehicle with automatic transmission. ☞ **automatic pilot** a device for keeping an aircraft on a set course. ☞ **automatically** *adv.*

automaticity /awtōmātisitē/ *n.* [formed as AUTOMATON + -IC]

☞ **adj.** 1 self-acting, self-governing, self-regulating, self-executing, mechanical; robotic; automated. 2 a mechanical, involuntary, instinctive, instinctual, natural, spontaneous, impulsive, immediate, conditioned, unconscious, subconscious, intuitive, reflex, knee-jerk, gut, robotlike, robotic, unbidden.

b unavoidable, inevitable, inescapable, ineluctable;

mandatory, compulsory; assured; definite. 3 see sense 2 above.

☞ *n.* 1 (spec.) *Mil.* machine-gun, MG, tommy gun, pom-pom, Bren, Gatling (gun), Lewis gun, Sten gun; sl. chopper. ☞ **automatic pilot**

autopilot, *Brit. sl.* George. ☞ **automatically**

mechanically, by itself or oneself, on its or one's own;

involuntarily, instinctively, instinctually, intuitively,

spontaneously, impulsively, immediately,

unconsciously, unthinkingly; see also **NECESSARILY**.

automation /awtōmāshn/ *n.* 1 the use of automatic equipment to save mental and manual labor. 2 the automatic control of the manufacture of a product through its successive stages. [irreg. f. AUTOMATIC + -ATION]

automatism /awtōmātizm/ *n.* 1 *Psychol.* the performance of actions unconsciously or subconsciously; such action. 2 involuntary action. 3 unthinking routine. [F *automatisme* f. *automate* AUTOMATON]

automatize /awtōmātiz/ *v.t.* 1 make (a process, etc.) automatic. 2 subject (a business, enterprise, etc.) to automation.

☞ **automatization** *n.* [AUTOMATIC + -IZE]

☞ **automate**.

automaton /awtōmāton, -ton/ *n. (pl. automata /-tə/ or automatons)* 1 a piece of mechanism with concealed motive power. 2 a person who behaves mechanically, like an automaton. [L f. Gk. neut. of *automatos* acting of itself; see AUTO-]

☞ 1 see ROBOT 1, 2. 2 see ROBOT 3.

automobile /awtōmābēl/ *n.* a motor vehicle for road use with an enclosed passenger compartment; a car. [F (as AUTO-, MOBILE)]

☞ **see CAR** 1.

automotive /awtōmōtiv/ *adj.* concerned with motor vehicles.

autonomic /awtōnōmik/ *adj.* esp. *Physiol.* functioning involuntarily. ☞ **autonomic nervous system** the part of the nervous system responsible for control of the bodily functions not consciously directed, e.g., heartbeat. [AUTONOMY + -IC]

autonomous /awtōnōməs/ *adj.* 1 having self-government. 2 acting independently or having the freedom to do so. ☞ **autonomously** *adv.* [Gk *autonomos* (as AUTONOMY)]

☞ 1 see INDEPENDENT *adj.* 1b.

autonomy /awtōnōmē/ *n. (pl. -ies)* 1 the right of self-government. 2 personal freedom, 3 freedom of the will. 4 a self-governing community. ☞ **autonomist** *n.* [Gk *autonomiā* f. *auto* self + *nomos* law]

☞ 1 see SELF-GOVERNMENT 1. 2 see FREEDOM 1, 2.

3 freedom, independence, self-determination.

autopilot /awtōpīlōt/ *n.* an automatic pilot. [abbr.]

autopsy /awtōpsē/ *n. (pl. -ies)* 1 a postmortem examination

to determine cause of death, etc. 2 any critical analysis. 3 a personal inspection. [F *autopsie* or mod. L *autopsia* f. Gk f. *autopētēs* eyewitness]

☞ 1 postmortem, necropsy. 2 *colloq.* postmortem; see also ANALYSIS 1.

autoradiograph /awtōräydeeɔgraf/ *n.* a photograph of an object, produced by radiation from radioactive material in the object. ☞ **autoradiographic** *adj.* autoradiography /awtōräydiogrāfē/ *n.*

autosuggestion /awtōsugjēshn/ *n.* a hypnotic or subconscious suggestion made by a person to himself or herself and affecting behavior.

autotelic /awtōtēlik/ *adj.* having or being a purpose in itself. [AUTO- + Gk *telos* end]

autotomy /awtōtōmē/ *n. Zool.* the casting off of a part of the body when threatened, e.g., the tail of a lizard.

autotoxin /awtōtōksin/ *n.* a poisonous substance originating within an organism. ☞ **autotoxic** *adj.*

autotrophic /awtōtrōfik, -trō/ *adj. Biol.* able to form complex nutritional organic substances from simple inorganic substances such as carbon dioxide (cf. HETEROtrophic). [AUTO- + Gk *trophē* feeder]

autotype /awtōtip/ *n.* 1 a facsimile. 2 a photographic print-

ing process for monochrome reproduction. b a print made by this process.

autoxidation /awtōksidāshn/ *n. Chem.* oxidation by ex-

posure to air at room temperature.